PINE TELEPHONE COMPANY
Report on Implementation of Wireless E911 Phase II ALI
KNKN971

Carrier ID: PINE TELEPHONE COMPANY – TRS No. 807189

Contact Information: Jerry Whisenhunt
P. O. Box 548
Broken Bow, OK 74728-0548
Phone: 580 /584-3355
Fax: 580/584-9009

(1) Type of Technology: TDMA/AMPS Markets: We plan to deploy a network-based technology for our analog and IS-136 service areas, which include all of its coverage area. We plan to deploy a combination of network based technologies, including cell site and sector information, Time Difference of Arrival, Angle of Arrival and/or multipath RF mapping.

(2) Testing and Verification:

a. Testing method to be used: Pine Telephone expects to use the testing methods based upon those described in OET Bulletin 71.

b. Results of Test already Conducted: Pine Telephone has conducted tests of the currently available location-technologies under consideration (E-OTD, AOA, TDOA, Network Assisted GPS and RF mapping. The data obtained in each specific trial of location-technology is subject to nondisclosure agreements with the respective vendors and cannot be disclosed publicly.

(3) Implementation Details and Schedules:

a. TDMA/AMPS Markets: Although the exact nature of the hardware installations will depend on the vendor chosen to provide location technology, and the specific solution(s) deployed at a given site, network-based equipment will likely require measurement units at each base station. For example, additional antennas will be required at base stations in areas (such as rural) that require AWOA techniques for accurate locations. Other than the additional antennas for AOA, the hardware will typically consist of a short rack of equipment that must be connected to power, antenna, and communications (DSO) ports, and located in a weather-proof enclosure. The direction-finding antennas for AOA installations will be installed upon tower or roof-tops co-located with or in the vicinity of the antennas used for regular cellular coverage.

Additional equipment is required in the cellular network to process requests for locations and to perform the actual position calculations. The equipment will typically be installed in central locations such as mobile switching centers.

The amount of time required to install the equipment is not known with certainty, as no large-scale deployment has occurred. In addition, calibration of the network-based location system could take a great amount of time and will be an on-going process.

On the infrastructure site, upgrades to base station controller software will be required to make the RF and network systems compliant with location-technology standards. Software updates are performed by the infrastructure vendor and they have informed us that they anticipate new software will be available prior to October 1, 2001.

b. Roll-out Schedule: Deployment schedules for Phase II technology will be dictated by PSAP requests.

(4) PSAP Interface:

The company plans on deploying a non-call assocated signaling network technology utilizing the newly defined network entity called a Mobile Position Center. The functionality of the MPC is defined in TIA/EIA J-STD-036, "Enhanced Wireless 9-1-1- Phase 2", a standard jointly developed by the communications industry and public safety. Per J-STD-036, the MPC provides the point of interface between a wireless carrier and the public safety network and serves as the network entity that retrieves, forwards, stores and controls position date within the location network

We are in the process of selecting an MPC supplier. Vendors are currently in the product development state. One vendor has indicated that a commercial, J-STD-036 compliant MPC, will be available in mid-2001. Test platforms may be available sooner.

Pine Telephone intends to install and begin testing MPC functionality as soon as vendors are able to provide a standard compliant platform. Fully testing MPC functionality, however, requires that ALI service providers upgrade the interface to the ALI system to support J-STD-036. As this is done, we will begin testing end-to-end transmission of Phase II data with ASLI service providers.

Software upgrades will be required to support MPC functionality in the MSC. Our MSC vendors have noted that upgrades for the switches will be available between 4th quarter of 2000 to the 4th quarter of 2001.

(5) Existing Handsets: For TDMA/AMPS systems Pine Telephone plans to deploy a network-based solution that does not require changes to the handsets. Legacy handsets are covered under this deployment plan.

(6) Location of Non-Compatible Handsets: In Pine Telephone's TDMA/AMPS market, the issue of non-compatible handsets is not relevant because the network-based location equipment is capable of locating all handsets, including legacy handsets.

(7) Other Information: A Phase II E911 location system is a very complex technology that has never been fully deployed on any large-scale commercial wireless network anywhere in the world and setting dates for this deployment is difficult.